FY05 as of July 2004

Yakima Training Center

Installation Action Plan

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FY05 as of July 04

Yakima Training Center

Washington

Installation Action Plan

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Installation Restoration Program for an installation. The plan will identify environmental cleanup requirements at each site or area of concern, and propose a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

The IRP is specifically focused at contamination resulting from past activities, and is funded by the centrally-managed Environmental Restoration, Army (ER,A) budget account. Cleanup activities directed at contamination primarily resulting from current operations are separately funded and managed, and, although mentioned where relevant, will not generally be discussed in detail in an IAP.

In an effort to coordinate planning information between the IRP manager, major army commands (MACOMs), installations, executing agencies, regulatory agencies, and the public, an IAP has been completed for Fort Lewis. The IAP is used to track requirements, schedules and budgets for all major Army installation restoration programs.

All site specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change. Under current project funding, all remedies will be in place at Fort Lewis by the end of 2009. Under current project funding, all remedies will be in place at YTC by the end of 2006.

The following agencies contributed to the formulation and completion of this Installation Action Plan:

Engineering & Environment, Inc.

Fort Lewis

PNNL

US Army Environmental Center

US EPA, Region 10

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Acronyms & Abbreviations

AEDB-R	Army Environmental Database - Restoration (formerly DSERTS)
AFB	Air Force Base
ALGT	American Lake Garden Tract
AOC	Area of Concern
ASP	Ammunition Storage Point
AST	Aboveground Storage Tank
bgs	below ground surface
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CIH	Certified Industrial Hygienist
CY	Cubic Yards
DA	Department of the Army
DCE	cis 1,2-dichloroethylene
DD	Decision Document
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program (now ER,A)
DOE	Department of the Energy
DOI	Department of the Interior
DOD	Department of Defense
DOL	Department of Logistics
DOT	Department of Transportation
DPM	Defense Priority Model
DQO	Data Quality Objectives
DRMO	Defense Reutilization and Marketing Office
DSERTS	Defense Site Environmental Restoration Tracking System (now called AEDB-R)
EECA	Engineer Evaluation/Cost Analysis
EGDY	East Gate Disposal Yard (Landfill 2)
EOD	Explosive Ordnance Division
EPA	Environmental Protection Agency
ER,A	Environmental Restoration, Army (formerly called DERA)
ERDC	Engineer Research and Deveopment Center
ERSH	Electrical Resistivity Soil Heating
ESD	Explanation of Significant Difference
FFA	Federal Facility Agreement
FORSCOM	U.S. Army Forces Command
FS	Feasibility Study
FTLE	Fort Lewis (AEDB-R code)
FTP	Fire Training Pit
FY	Fiscal Year
gpm	gallon per minute
GSA	General Services Administration
GWM	Groundwater Monitoring
HRS	Hazard Ranking Score
IAP	Installation Action Plan
II	Intitial Investigation (WA state version of a SI)
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISRM	In Situ Redox Manipulation
IWWTP	Industrial Waste Water Treatment Plant
kg	kilogram

Acronyms & Abbreviations

LSI	Limited Site Investigation
LTM	Long-Term Monitoring
LTO	Long-Term Operation
MACOM	Major Command
MAMC	Madigan Army Medical Center
MATES	Mobilization and Training Equipment Site
MCA	Military Construction, Army
MCL	Maximum Contaminant Level
mg	miligram
mgd	million gallons per day
MMRP	Military Muntion Rule Program
MNA	Monitored Natural Attenuation
MOGAS	Motor Gasoline
MROD	Mount Rainier Ordnance Depot
MTCA	Model Toxics Control Act
MW	Monitoring Well
MWR	Morale, Welfare and Recreation
NAPL	Non-Aqueous Phase Liquid
NE	Not Evaluated
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
OB/OD	Open Burning/Open Detonation
OMA	Operation and Maintenance, Army
OMS	Organizational and Maintenance Shop
P&M	Pittsburg and Midway Coal Mining Company
P&T	Pump and Treat
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PCE	Perchloroethylene or tetrachlorothylene
PCP	Pentachloro-phenol
PLP	Potenially Liable Party
PNNL	Pacific Northwest National Labratory
POL	Petroleum, Oil, Lubricants
ppb	Parts Per Billion
ppm	Parts Per Million
PW	Public Works
PY	Prior Year
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RABBIT	Reductive Anaerobic Biological In Situ Treatment Technology
RAP	Remedial Action Plan
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal

Acronyms & Abbreviations

RFA	RCRA Facility Agreement
RI	Remedial Investigation
RIP	Remedy in Place
RFI	RCRA Facility Investigation
ROD	Record of Decision
RPO	Radiation Protection Officer
RRSE	Relative Risk Site Evaluation
S&A	Supervision and Administration
S&R	Supervision and Remediation
SDWA	Safe Drinking Water Act
SI	Site Inspection
SLA	Sea Level Aquifer
SRC	solvent refined coal
SRCPP	Solvent Refined Coal Pilot Plant
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
TRS	Thermal Remediation Services
TVR	Tracked Vehicle Repair
URS	One of the Independent contractors
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
USATHMA	United States Army Toxic and Hazardous Material Agency (replaced by AEC)
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds
WA	Washington
WAC	Washington Administrative Code
WDOT	Washington Department of Transportation
YFCR	Yakima Training Center (AEDB-R code)
YTC	Yakima Training Center

Summary

STATUS	Non-NPL site with RCRA Sub X-Part B Permit Application Pending
NUMBER OF SITES:	51 sites 6 Active ER,A Eligible Sites 1 Remedy In Place with LTM 44 Response Complete Sites
MMRP Sites:	8
BRAC Sites:	0
DIFFERENT AEDB-R SITE TYPES:	2 Burn Areas 2 Contaminated Buildings 3 Landfills 1 Pistol Range 2 Soil Contaminated After Tank Removal 1 Underground Tank Farms 5 Unexploded Munition/ Ordnance 1 Fire/Crash Training Area 25 Firing Ranges 3 Oil Water Separators 4 Spill Site Areas 2 Waste Treatment Plants
CONTAMINANTS OF CONCERN:	Explosives, Heavy Metals, TCE, POL
MEDIA OF CONCERN:	Soil, Groundwater
COMPLETED REM/IRA/RA:	- RA: USTs and contaminated soil removal (1991) - RA: Fuel Bladder and contaminated soil removal (1992) (non-IRP funds) - RA: Landfill cap
CURRENT IRP PHASES: (AEDB-R SITES ONLY)	RI/FS at 6 sites LTM at 2 sites
PROJECTED IRP PHASES: (AEDB-R SITES ONLY)	RI/FS at 1 site RD at 1 site RA at 5 sites LTM at 5 sites
IDENTIFIED POSSIBLE REM/IRA/RA:	- RA at YFCR-32, 34, 47, 49, 50
DURATION:	YEAR OF IRP INCEPTION: 1988 YEAR OF IRP COMPLETION EXCLUDING LTM: 2006 YEAR OF IRP COMPLETION INCLUDING LTM: 2034

Installation Information

SITE DESCRIPTION:

Yakima Training Center (YTC) is located in south-central Washington ~100 air miles east-southeast of Fort Lewis and seven miles north of the City of Yakima. YTC encompasses ~323,651 acres within Yakima and Kittitas Counties on the east side of the Cascade Range. The facility consists of relatively undeveloped shrub and grassland within the western part of the Columbia Plateau. YTC is bounded on the north by Interstate 90 and Badger Pocket, and on the east by the Columbia River. The on-site population consists of approximately 10 residents, 15 to 20 daytime workers, and can increase to as many as 30,000 soldiers per day during maneuvers.

COMMAND ORGANIZATION:

Installation: Fort Lewis Public Works, Environmental and Natural Resources Division

IRP EXECUTING AGENCIES:

Investigation Phase and Remedial: Headquarters I Corps and Fort Lewis, Public Works
Action Phase Executing Agency: Environmental and Natural Resources Division, Fort Lewis, WA

REGULATORY PARTICIPATION:

Federal: U.S. Environmental Protection Agency, Region 10, Federal Facilities Branch, Lacy, WA
State: Washington State Department of Ecology (Ecology), Hazardous Waste and Toxic Reduction Program, Yakima, WA

REGULATORY STATUS:

- A Potenially Liable Party (PLP) letter was issued by Ecology in 1st QTR FY02 in concurrence with Washington's Model Toxic Control Act

MAJOR CHANGES TO IAP FROM PREVIOUS YEAR:

None

Installation Description

CURRENT ACTIVITY

YTC is an active major subinstallation of Fort Lewis. The mission of YTC is to provide training facilities and logistical support for assigned units and operational live-fire training for I Corps units and reserve components. YTC is used periodically by the National Guard, U.S. Navy, U.S. Air Force, U.S. Marine Corps, U.S. Coast Guard, and units from allied nations such as Canada and Great Britain. The location, size, and terrain characteristics of YTC provide a highly suitable land area for advanced unit training, field exercises and maneuvers, and operational readiness training.

HISTORIC ACTIVITY

YTC has been used for military maneuvers and weapons training since its establishment in 1941 as an anti-aircraft firing range. Prior to military use, the area supported livestock grazing and limited mining. In 1941 and 1942, the Army leased 160,000 acres from private landowners and various county, state, and federal agencies.

During World War II, YTC was used extensively for training artillery, infantry, and engineering units based in the Pacific Northwest. Existing Cantonment Area buildings were built in 1951 during the Korean War. During 1950 and 1951, additional land acquisitions expanded the YTC facility to approximately 261,000 acres. Subsequent additions have increased the facility to its present 323,651 acres.

YTC now houses several military or federal government tenants including the Washington Army National Guard Mobilization and Training Equipment Site, Marine and Army Reserve Centers, and the Yakima Research Station. The Yakima Research Station is a communications research and development facility operated by the DoD.

REGULATORY STATUS

YTC is a non-NPL subinstallation. A Potentially Liable Party (PLP) letter was issued by Ecology in 1st QTR FY02. Current site investigations and remediation actions are in accordance with Washington's Model Toxic Control Act

A RCRA Part B permit application for treatment of unservicable munitions was submitted to EPA in 1988. It was resubmitted in 1996. Fort Lewis has closed the unserviceable munitions, however, the unserviceable munitions treatment unit remains in interium status.

Contamination Assessment

Background: An Installation Assessment report for YTC was first completed in September 1983. YTC was listed on the Federal Agency Hazardous Waste Compliance Docket in 1988. In June 1991, a Preliminary Assessment (PA) was completed and submitted to EPA, who subsequently requested further information regarding the waste sites identified in the PA. To provide this information, a Site Investigation (SI) was initiated in 1992 and submitted to EPA in September 1993. In addition, a Site Screening Inspection was completed in January 1993. After scoring by EPA under HRSII, it was determined that YTC did not score high enough for proposal to the National Priority List.

In response to the submission for a RCRA Part A/B Permit for an Open Burning/Open Detonation Range in 1988, EPA Region 10 requested a RCRA Facility Assessment (RFA) be conducted at YTC. The 1995/1996 RFA identified 77 solid waste management units (SWMUs) and 38 areas of concern (AOCs).

Currently 8 YTC sites are being addresses with IRP funds.

Buildings 318/319 - YFCR-01 (AOCs 2 and 5): The concern at this site was the detection of a low concentration of trichloroethylene (TCE) in Marie's Well, a former emergency supply backup well for the YTC Cantonment Water System. Although it is suspicious that TCE would be detected in a relatively deep well like Marie's Well (e.g., the contamination could be caused by an improperly constructed well), it is unlikely that contamination from this area has significantly impacted site soils or groundwater. A site investigation is planned to delineate the nature of any contamination at the site.

Building 815 - YFCR-32 (SWMU 5): The primary pathways of concern at the site are exposures of site workers and terrestrial ecological organisms to dieldrin. A remedial investigation is planned to delineate the extent of contamination at the site.

Vehicle Washracks - YFCR-34 (AOCs 1 and 3): The main potential contaminants of concern at these two former washrack facilities are metals. No remedial action beyond institutional controls will likely be needed for these sites.

Ammunition Storage Point (ASP) - YFCR-46 (SWMU 26): The primary contaminants of concern at this site are constituents of petroleum products in shallow soils. Once these shallow soils are excavated and disposed of, no further action will be necessary since the site will not pose any unacceptable risks.

ASP Burn Pits - YFCR-47 (SWMU 27): Contaminants of concern at the site include TPH, SVOCs, metals, and PCBs. Although a risk assessment has not yet been completed for the site, it is unlikely that any potential exposure pathways will pose unacceptable risks. The likely remedial action for the site will likely be continued maintenance of institutional controls.

Pre-1954 Landfill – YFCR-49 (SWMU 54): Potential contaminants of concern include TPH, VOCs, SVOCs, metals, PCBs, and pesticides. Potential exposure pathways for contaminated soil include those of site workers, child trespassers, and terrestrial ecological organisms. A site investigation is planned to determine the impacts of the landfill on groundwater.

1954-1968 Landfill/Burn Pits – YFCR-50 (SWMU 57): Potential contaminants of concern include TPH, VOCs, SVOCs, metals, PCBs, and pesticides. Potential exposure pathways for contaminated soil include those of site workers, child trespassers, and terrestrial ecological organisms. A site investigation is planned to determine the impacts of the landfill on groundwater.

Fire Training Pit –YFCR-53 (SWMU 59): The primary concern at this site was the detection of light non-aqueous phase liquid (LNAPL) in perched groundwater downgradient of the site. The primary contaminants of concern at the site are constituents of petroleum products. A remedial action is underway to excavate and dispose of contaminated soils. Long-term groundwater monitoring is planned to assess contaminant concentrations and LNAPL thicknesses in downgradient monitoring wells.

Previous Studies

Title	Author	Date
Installation Assessment of the Headquarters, I Corps and Fort Lewis, WA and the Subinstallations Yakima Firing Center, Camp Bonneville, and Vancouver Barracks, WA	Environmental and Science Engineering, Inc	Oct-82
Final Environmental Impact Statement, Yakima Firing Center Proposed Land Acquisition	Headquarters, Fort Lewis	Jun-88
Design Recommendations for the Operation, Closure and Post-Closure Plans Yakima Firing Center Landfill	Shannon & Wilson Inc.	Sep-89
Yakima Firing Center Landfill Operations Plan	Bovay Northwest	Jul-91
Yakima Firing Center Landfill Closure/Post-Closure Plan	Bovay Northwest	Jul-91
Site Investigation Report Yakima Training Center	Ecology and Environment, Inc	Jun-93
Site Investigation Report Yakima Training Center Laboratory	Ecology and Environment, Inc	Jun-93
Yakima Training Center Solid Waste Disposal Study	ENSR Consulting	Mar-94
Relative Risk Site Evaluations for Yakima Training Center	Pacific Northwest Laboratory	Nov-96
RCRA Facility Investigation Report Volume I POL Yard (SWMU 27)	The Shannon & Wilson Team	Oct-01
RCRA Facility Investigation Report Volume I Ammunition Storage Point (SWMU 26)	The Shannon & Wilson Team	Nov-01
RCRA Facility Investigation Report Volume I Fire Training Pit (SWMU 59)	The Shannon & Wilson Team	Nov-01
RCRA Facility Investigation Report Volume I ASP Burn Pits (SWMU 27)	The Shannon & Wilson Team	Oct-01
RCRA Facility Investigation Report Volume II Fire Training Pit (SWMU 59), Ammunition Storage Point (SWMU 26), ASP Burn Pits (SWMU 27), POL Yard (AOC 4)	The Shannon & Wilson Team	Apr-01

Yakima Training Center

ER,A ELIGIBLE
OPEN SITES

YFCR-01
MOTOR POOL (BLDG 319) (PAGE 1 OF 2)

SITE DESCRIPTION

The Building 318/319 site (YFCR-01, AOC 2 and 5) includes the Building 319 Motor Pool, a former washrack located north of the motor pool, and a hazardous material storage area (Building 318) that was constructed around 1980. The site is an active ER,A site because RCRA corrective action was recommended following the 1995 RFA. No known releases have occurred from either the motor pool or the hazardous material storage area.

In 2004, it was decided that the TCE found in the YFCR-41 area will be addressed as part of YFCR-01.

STATUS

RRSE RATING: Low

CONTAMINANTS:

TCE, Metals, POL

MEDIA OF CONCERN:

Groundwater, Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/SI, LTM

FUTURE IRP PHASE:

LTM

PROPOSED PLAN

Fort Lewis PW plans to conduct a limited site investigation is FY05. Direct-push technology will be used to collect soil and/or soil gas samples from the soil that overlies the basalt bedrock. Samples will likely be analyzed for typical industrial contaminants such as VOCs and TPH.

It is anticipated that no further action will be required for the soil following the limited SI.

YFCR-32
BUILDING 815

SITE DESCRIPTION

Former Building 815 (YFCR-32, SWMU 5), which was located in the Public Works Yard, was used for pesticide storage. Mixing, storage, rinsing, and loading of pesticides occurred inside the northwest corner of the former building and outside the back door (north side) of the building. In addition, the pesticide truck was cleaned on the west side of the building. Secondary containment was not used for any of these operational practices. The building, used from 1951 to 1988, was destroyed by fire in October 1990. The building was not being used for pesticide storage at the time of the fire.

A site investigation (in which eight soil borings were advanced) was completed in March 2003. Dieldrin was detected in two borings on the north side of former Building 815, with the highest concentration observed near the northwest corner of the former building. In addition, dieldrin, other pesticides, and metals were detected above screening concentrations in soil samples collected from SWMU 4, which appears to be due to stormwater run-off from SWMU 5.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Pesticides, Metals

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RI/FS, RD, RA

PROPOSED PLAN

Fort Lewis PW plans to conduct a RI in FY05 to delineate the extent of the pesticide contamination. A risk assessment (including alternative site-specific terrestrial ecological evaluation) and feasibility study will likely be conducted in subsequent years. Potential remedial options for the FS include no further action following establishment of site-specific cleanup levels, implementation of institutional controls for contaminants above cleanup levels but below remediation levels, installing a site cap, and excavation and disposal. It is assumed that a 0.5-acre cap will be the selected remedy for the site.

YFCR - 34
VEHICLE WASHRACKS

SITE DESCRIPTION

YFCR-34 consists of the following two former washracks:

AOC 1 is the former main vehicle washrack located south of Building 845 on Cold Creek Road. The washrack was in use from 1968 to 1980. The wash water was treated in a settlement basin before it was discharged to the surface water drainage system. Samples taken from the sediment pond in the late 1990s showed no significant contamination. The site is an active ER,A site because RCRA corrective action was recommended following the 1995 RFA. No known releases have occurred from the site.

AOC 3 (photo below) is a former Public Works washrack that is located in the Public Works Yard, south of former Building 812. This washrack was used from 1951 to 1980, when the use was greatly reduced. The site is an active ER,A site because RCRA corrective action was recommended following the 1995 RFA. A site investigation (in which seven soil borings were advanced) was completed in March 2003. Lead and chromium were detected in isolated samples at concentrations above state cleanup standards for unrestricted land uses.

STATUS

RRSE RATING: Low

CONTAMINANTS:

POL, Metals

MEDIA OF CONCERN:

Soil, Surface Water

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RA

PROPOSED PLAN

AOC 1: Fort Lewis PW plans to conduct a limited site investigation is FY05. Direct-push technology will be used to collect soil and/or soil gas samples from the soil that overlies the basalt bedrock. Samples will likely be analyzed for typical industrial contaminants such as VOCs and TPH. It is anticipated that no further action will be required following the limited SI.

AOC 3: No further action is expected for the site pending Washington Department of Ecology approval of institutional controls on industrial land use as the selected remedy.

YFCR-47
ASP BURN PITS

SITE DESCRIPTION

The Ammunition Storage Point (ASP) Burn Pits site (YFCR-47, SWMU 27) includes four identified former burn pits (total area of 400 x 200ft) located east of the ASP in the southeast portion of the YTC Cantonment Area. The burn pits were used for burning ammunition packing materials, including wood products treated with wood preservatives. The estimated last date of burn pit use was 1985.

In 2001, the area was graded during construction of a new ASP. Surface UXO was removed during the plowing. Pits of debris are currently located approximately 4-11 ft bgs.

A site investigation was completed in October 2001. Shallow soil borings were advanced in each of the known burn pits. Potential exceedances detected in the burn pits during the SI include PCBs, TPH, carcinogenic PAHs, pentachlorophenol, and metals. In addition, three borings were advanced to approximately 150 feet bgs in order to install monitoring wells; however, the two downgradient MWs were not installed since a water-bearing unit was not encountered within 150 feet.

STATUS

RRSE RATING: Low

CONTAMINANTS:

PCBs, TPH, Metals, Dioxins, VOCs, SVOCs

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RA, LTM

PROPOSED PLAN

Fort Lewis PW plans to contract directly for a risk assessment (including alternative site-specific terrestrial ecological evaluation) at the same time as risk assessments for YFCR-32, YFCR-49, and YFCR-50. Following the risk assessment, it is expected that no further action will be needed beyond implementation of institutional controls on land use planning and groundwater use planning.

YFCR-49
ORIGINAL LANDFILL (PRE-1954)

SITE DESCRIPTION

The pre-1954 Landfill (YFCR-49, SWMU 54) is located in the southeast portion of the Cantonment area between the Jordan Well, 600,000-gallon water reservoir, and the ASP. Even though available personnel were interviewed during the 1991 YTC PA, and historical maps/aerial photographs were reviewed in 2004, the exact location and extent of the landfill has not been determined. Although the 1995 RFA estimates the landfill size to be approximately 10,000 square feet, the current mapped landfill boundary is approximately 700,000 square feet based on surface features observed during a 2002 site visit. The year when the landfill was first used in unknown, but may have been during the World War II use of YTC or during the permanent build-up of the Cantonment area in the early 1950s. As the name implies, the landfill was used until 1954. No information is available regarding the waste stream or the quantity of waste disposed of at the site. Landfill closure activities apparently consisted of covering the refuse with an unknown depth of native soil since no refuse is exposed at the surface. The site is not currently being used by YTC.

The site has not been investigated to date beyond the 1991 YTC PA, 1995 RFA, and 1996 PNNL RRSE.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metals, VOCs, SVOCs

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RA, LTM

PROPOSED PLAN

Based on previous assessment, the only potential exposure pathways at the site are those related to groundwater beneficial use, terrestrial ecological organisms, and future construction workers. A groundwater investigation by Fort Lewis PW is currently underway using FY04 funds. Two downgradient MWs will be installed between the presumed landfill location and the Jordan Well. An existing ASP MW will be used as an upgradient MW. Fort Lewis PW plans to conduct quarterly groundwater monitoring from all three MWs during FY05. Samples will be analyzed for VOCs, SVOCs, TPH, metals, chlorinated pesticides, and PCBs. An alternative site-specific terrestrial ecological evaluation is planned for FY06 at the same time as risk assessments for YFCR-32, YFCR-47, and YFCR-50.

Following the groundwater investigation and alternative site-specific terrestrial ecological evaluation, it is assumed that no further action will be necessary beyond implementation of institutional controls on land use planning and groundwater use planning.

YFCR-50
LANDFILL/BURN PIT (1954-1968)

SITE DESCRIPTION

The 1954-1968 Landfill/Burn Pits site (YFCR-50, SWMU 57) is located in the northwest portion of the Cantonment area, approximately 0.1 miles north of the National Guard building. Waste generated in the Cantonment Area and by training troops was burned and disposed of in unlined pits in this area between 1954 and either 1968 or 1974. Based on aerial photography and surface features, it appears that a total of up to 7 trenches were used during the life of the site. The total area of the entire site around the 7 trenches is approximately 150,000 square feet. Waste materials burned and disposed of at the site could have included tank batteries, painting waste, vehicle maintenance equipment and supplies. The estimated quantity of waste burned and disposed of at the site apparently ranged from 5 cubic yards in the winter to 600 cubic yards in the summer. Landfill closure activities apparently consisted of covering the refuse with an unknown depth of native soil; however, it could be assumed, based on the 5 test pits excavated during the limited SI, that the soil cover is at least 1.5 ft thick. The site is not currently being used by YTC.

In addition to the 1991 YTC PA, 1995 RFA, and 1996 PNNL RRSE, a limited SI was completed in March 2003. During the limited SI, five test pits were excavated and sampled in locations where trenches were identified. Burned municipal waste was found in all test pits. Potential exceedances included metals, tetrachloroethylene, and TPH.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metals, VOCs, SVOCs, Petroleum

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RA, LTM

PROPOSED PLAN

Based on previous assessment, the only potential exposure pathways at the site are those related to groundwater beneficial use, terrestrial ecological organisms, and future construction workers. A groundwater investigation by Fort Lewis PW is currently underway using FY04 funds. Two downgradient MWs will be installed between the landfill and the installation boundary. Fort Lewis PW plans to conduct quarterly groundwater monitoring from the two new MWs along with two of the four existing MWs at the Marine Reserve Center and Army Reserve Center during FY05. Samples will be analyzed for VOCs, SVOCs, TPH, metals, chlorinated pesticides, and PCBs. An alternative site-specific terrestrial ecological evaluation is planned for FY06 at the same time as risk assessments for YFCR-32, YFCR-47, and YFCR-49.

Following the groundwater investigation and alternative site-specific terrestrial ecological evaluation, it is assumed that no further action will be necessary beyond implementation of institutional controls on land use planning and groundwater use planning.

YFCR-53
FIRE TRAINING AREA

SITE DESCRIPTION

The former Fire Training Pit site (YFCR-53, SWMU 59) is located in the northeast portion of the YTC Cantonment Area. The Fire Training Pit was apparently used to practice extinguishing fires two or three times per year from an unknown start date until 1987 (with a single training event in 1990). Common practice for each practice event was apparently to saturate the open, unlined earthen pit with water, then add and ignite 500 to 1,000 gallons of waste JP-4 aviation fuel, diesel fuel, or MOGAS before extinguishing the fire. The site is not currently being used by YTC.

Investigation activities include a 1991 YTC PA, 1993 SI, 1995 RFA, and 2001 SI. A remedial action was conducted during FY03 and FY04 to excavate soil contamination that exceeded MTCA Method A cleanup levels. Approximately 1,350 tons of soil were removed during the action. The excavation was backfilled.

Long-term groundwater monitoring began in January 2004.

STATUS

RRSE RATING: High

CONTAMINANTS:

POL, Metals, SVOCs, VOCs

MEDIA OF CONCERN:

Groundwater,Soil

COMPLETED IRP PHASE:

PA, RI/FS, RD, RA

CURRENT IRP PHASE:

RIP (2004) with LTM

FUTURE IRP PHASE:

RIP (2004) with LTM

PROPOSED PLAN

Fort Lewis PW plans to continue conducting long-term groundwater monitoring due to exceedances in MW FTP 1. In the near term, samples will be collected semi-annually from the existing 5 MWs and analyzed for VOCs, SVOCs, and TPH. In the future, there will likely be a decrease in monitoring frequency and analytes.

Yakima Training Center

ER,A ELIGIBLE
RESPONSE COMPLETE SITES

YFCR-02
SEWAGE TREATMENT PLANT LAB

SITE DESCRIPTION

YFCR-02 (SWMU 75) is a sewage treatment plant lab located along the western edge of the Cantonment Area. Contaminants of concern include solvents.

Because this site is active, no further action is planned under the IRP.

STATUS

RRSE RATING: NE
CONTAMINANTS:
Solvents
MEDIA OF CONCERN:
Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1996

YFCR-03
PHOTO LAB

SITE DESCRIPTION

YFCR-03 was a photo lab, formerly Building 221, located off of B Street in the Cantonment Area . Contaminants of concern included solvents and heavy metals.

Because the former use of this site indicates a low potential for historical release of contaminants, no further action is planned under the IRP or Agreed Order.

STATUS

RRSE RATING: NE
CONTAMINANTS:
Solvents, Heavy Metals
MEDIA OF CONCERN:
Soil
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1991

YFCR-04 RANGE 1 (RIFLE)
YFCR-06 RANGE 3 (PISTOL)
YFCR-07 RANGE 4 (TANK GUNNERY)
YFCR-08 RANGE 5 (TANK GUNNERY)
YFCR-09 RANGE 7 (M79/203)
YFCR-10 RANGE 10 (M79/203 TRAINING)
YFCR-11 RANGE 9 (HAND GRENADE)
YFCR-12 RANGE 10 (TPT AMMO)
YFCR-13 RANGE 10Z (UNK)
YFCR-14 RANGE 11 (M16/M60)
YFCR-15 RANGE 12 (M60)
YFCR-16 RANGE 13 (AERIAL GUNNERY)
YFCR-17 RANGE 14 (106 REC RIFLE)
YFCR-18 RANGE 15 (TANK GUNNERY)
YFCR-19 RANGE 16 (AERIAL)
YFCR-20 RANGE 17 (AERIAL GUNNERY)
YFCR-21 RANGE 19 (AIR DEFENSE)
YCRR-22 RANGE 20 (UNK)
YFCR-24 RANGE 22 (AERIAL GUNNERY)
YFCR-25 RANGE 22C (UNK)
YFCR-26 RANGE 23 (SQUAD)
YFCR-27 RANGE 24 (BTN SIZE)
YFCR-28 RANGE 26 (TANK GUNNERY)
YFCR-29 RANGE 27 (AERIAL GUNNERY)
YCFR-30 RANGE 28 (DEMO AREA)
YFCR-31 RANGE 30 (UNK)
YFCR-40 RANGE 2 (PISTOL & MG)

STATUS

RRSE RATING: NE
CONTAMINANTS:
UXO, Metals, Explosives
MEDIA OF CONCERN:
Groundwater, Soil, Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1996

SITE DESCRIPTION

These sites are active ranges. Because these sites are active, no further action is required under the IRP.

YFCR-33
SANITARY WASTE TREATMENT PLANT

SITE DESCRIPTION

YFCR-33 (SWMU 74) is a sanitary waste treatment plant located along the western edge of the Cantonment Area. The plant is managed under a NPDES permit.

Because this site is active, no further action is planned under the IRP.

STATUS

RRSE RATING: NE
CONTAMINANTS:
Industrial Liquid Waste
MEDIA OF CONCERN:
Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1996

YFCR-35
SOLID WASTE LANDFILL

SITE DESCRIPTION

YFCR-35 (SWMU 51) is a solid waste landfill used from 1969 to 1994 for disposal of municipal refuse from YTC. The landfill is approximately five acres in size and is covered by an engineered cap with several methane vent pipes at the surface. Four monitoring wells surround the site, one upgradient to the south, one on either side, and one downgradient; only the upgradient well routinely has water in it. Metals (arsenic and cadmium) were reportedly detected in the downgradient monitoring well. The SI was completed in 1993.

Because of the years of use, this site is not eligible for IRP funds.

LTM is being conducted through 2014 with non-IRP funds.

STATUS

RRSE RATING: High
CONTAMINANTS:
Metals, Solvents, TPH
MEDIA OF CONCERN:
Groundwater
COMPLETED IRP PHASE:
PA/SI
CURRENT IRP PHASE:
RC under the IRP - 1998

YFCR-36
ACTIVE RANGE #4

SITE DESCRIPTION

YFCR-36 (AOC 6) is an active range located in the southeastern part of YTC.

No further action is planned under the IRP.

STATUS

RRSE RATING: NE
CONTAMINANTS:
UXO, Explosives, Metals
MEDIA OF CONCERN:
Soil, Groundwater, Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1996

YFCR-37
ACTIVE RANGE #1

SITE DESCRIPTION

YFCR-37 is an active range located in the central part of YTC, southwest of the Central Impact Area.

No further action is planned under the IRP.

STATUS

RRSE RATING: NE
CONTAMINANTS:
UXO, Explosives, Metals
MEDIA OF CONCERN:
Soil, Groundwater, Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1996

YFCR-39
BURN AREAS (AT ARTILLERY FIRING POINTS)

SITE DESCRIPTION

This area is used by troops to burn excess artillery powder bags as part of training.

Because this site is active, no further action is planned under the IRP.

STATUS

RRSE RATING: NE
CONTAMINANTS:
Ordnance Components
MEDIA OF CONCERN:
Soil, Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1996

YFCR-41
FORMER MATES FACILITY (BLDG. 845)

SITE DESCRIPTION

The Former MATES Facility (YFCR-41, SWMU 43/44) is the site being used to address TCE contamination in the Selah Interbed Aquifer under the central part of the YTC Cantonment Area. The Former MATES Facility (Building 845), which is also known as Tracked Vehicle Repair (TVR), had two waste oil USTs with soil contamination left in place following tank and soil removal in 1991. These USTs may have been responsible for the TCE that was detected at 35 ug/L and 14 ug/L in two TVR monitoring wells during a 1993 SI. TCE concentrations above the MCL were confirmed in these two MWs during a January 2004 monitoring event. In addition, TCE concentrations above the MCL were also detected in two MWs at another former MATES facility (Building 951), which is located upgradient of Building 845, during the 1993 SI and January 2004 monitoring event.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
POL, Solvents
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1995

The following will be funded under YCFR-01: Previous IAPs concluded that the soil contamination from the two USTs, which were left in place to prevent undermining a building foundation, do not pose a risk. Previous plans were to implement institutional controls for the remaining soil contamination. This decision will eventually be re-evaluated following completion of the groundwater investigation described below.

A groundwater investigation by Fort Lewis PW is currently underway using FY04 funds. Three new MWs will be installed in the Selah Interbed Aquifer. One MW will be installed downgradient of TVR between the TVR MWs and the Main Motor Pool MWs (near YFCR-01). One MW will be installed between the TVR MWs and the Building 951 MWs. One MW will be installed upgradient of the Building 951 MWs. Semi-annual groundwater monitoring of the 6 existing MWs and 3 new MWs is planned beginning in FY05. All samples will only be analyzed for VOCs.

Following the groundwater investigation, it is assumed that the selected remedy for the site will be long-term monitoring along with implementation of institutional controls on land use planning and groundwater use planning.

YFCR-42
MATES FACILITY (BLDG 951)

SITE DESCRIPTION

YFCR-42 (SWMU 71) is an oil/water separator near Building 951 in the central Cantonment Area. No releases are known.

Because this site is active, no further action is planned under the IRP.

STATUS

RRSE RATING: High
CONTAMINANTS:
POL, Solvents
MEDIA OF CONCERN:
Groundwater, Soil, Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1996

YFCR-43
TANK MAINTENANCE (BLDG 851)

SITE DESCRIPTION

YFCR-43 (SWMU 16) is a washrack for several tanks adjacent to the USMC Reserve Center (Tank Maintenance Building 851) located in the northern part of the Cantonment Area. Wash water is collected on a concrete pad and drains through a grate and below-ground piping to an oil/water separator. Water drains from the oil/water separator to a leach field immediately south of the oil/water separator. No releases are known.

Because this site is active, no further action is planned under the IRP.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
Solvents, POL
MEDIA OF CONCERN:
Groundwater, Soil, Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1995

YFCR-44
VEHICLE MAINTENANCE (BLDG. 806)

SITE DESCRIPTION

YFCR-44 (SWMU 64) is an oil/water separator located outside the south-west corner of Building 806, in the northern part of the Cantonment Area. The oil/water separator is a round concrete structure (~6-feet in diameter) and rises approximately 1 foot above the asphalt grade. Below-ground piping connects the oil/water separator to the sanitary sewer. No releases are known.

Because this site is active, no further action is planned under the IRP.

STATUS

RRSE RATING: High
CONTAMINANTS:
Solvents, POL
MEDIA OF CONCERN:
Soil, Groundwater, Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1995

YFCR-45
JP4 BLADDER SITE (NEAR BLDG. 450)

SITE DESCRIPTION

YFCR-45 (AOC 33) is a former bladder site near Building 450 in the central Cantonment Area. It contained five 10,000-gallon and one 50,000-gallon JP4 aviation fuel bladders. The site was constructed pre-1979 with the bladders positioned in unlined earthen berms. It was deactivated in 1991, followed by removal of the bladders. The site has been regraded and covered with gravel. An initial investigation, including soil sampling, was conducted with the Department of Ecology to determine if the site required additional action. Currently, this area is paved and used as a hazardous waste storage area.

No further action is required by WS Dept of Ecology.

STATUS

RRSE RATING: Low
CONTAMINANTS:
Jet Fuel, JP4
MEDIA OF CONCERN:
Groundwater, Soil
COMPLETED IRP PHASE:
PA/SI
CURRENT IRP PHASE:
RC - 1996

YFCR-46
AMMUNITION STORAGE POINT

SITE DESCRIPTION

YFCR-46 (SWMU 26) is an area (~40 x 50ft) within the Ammunition Storage Point that is used to store and process ammunition residue (empty shell casings and packing materials). Previously, 55-gallon drums containing residual amounts of petroleum/oil/lubricants (POL) and brake fluid were drained to the ground surface so that the drums could be used for storage of the shell casings. The site is currently used for storing pallets.

Samples taken in 2000 found elevated concentrations of TPH and metals at levels less than 1 foot, in the southwest corner of the drum storage area above state cleanup levels.

Soil removal was completed in FY03.

No additional action is expected.

The wells near this site will be used for background monitoring for YFCR-49.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
Metals, TPH, POL
MEDIA OF CONCERN:
Soil
COMPLETED IRP PHASE:
PA, RI/FS, RD, RA
CURRENT IRP PHASE:
RC

YFCR-48
PESTICIDE STORAGE (BLDG. 975)

SITE DESCRIPTION

YFCR-48 (SWMU 62) was originally built to be a drive-through washrack for wheeled vehicles. It was never able to function properly in that mode and therefore was used for temporary storage of pesticides and herbicides. Two small rooms on the northwest side of the building were used. Concrete berms (~6 inches in height) form the base of the rooms, the remainder being constructed with plywood exteriors and sheetrock interiors. The rooms reportedly were used from 1988 up to as recently as 1997 for storage of pesticides and herbicides. No known spills have occurred. A state-of-the-art facility is now used for this purpose.

Because this site is active, it is not eligible for IRP funds.

STATUS

RRSE RATING: Low
CONTAMINANTS:
Pesticides
MEDIA OF CONCERN:
Groundwater, Soil, Surface Water
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1996

YFCR-51
LANDFILL PITS (1968-1969)

SITE DESCRIPTION

Little information is available regarding these pits (SWMU 56). They are believed to be located 0.1 mile east of the Closed Sanitary Landfill at FG985716. A historical photo analysis was conducted. The pit was reportedly used for less then one year in 1968-69 and has not been located on historical aerial photographs. The location has not been found. The potential for adverse impact to the groundwater from a site in this area is low.

No further action is expected.

STATUS

RRSE RATING: Low
CONTAMINANTS:
Metals, VOCs, SVOCs
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA, RI/FS
CURRENT IRP PHASE:
RC - 2003

YFCR-52
BURIED MUNITION AREA (BLDG 217)

SITE DESCRIPTION

During construction projects in the mid-1980s, buried training munitions were found in the vicinity of Buildings 217 and 218 (AOC 7). In 1987/1988 bangalore torpedoes were found near Building 217. The possible composition is amatol, TNT, Composition A-3 (91% RDX and 9% wax). The area is posted for no digging. The date of burial is unknown, but believed to be during the 1940s.

An RFI is planned with the Corps of Engineers to determine if there is a threat to human health and the environment.

STATUS

RRSE RATING: Low
CONTAMINANTS:
Explosives (TNT, RDX)
MEDIA OF CONCERN:
Soil
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
RC - 1996

YFCR-54
WASHRACK USTS

SITE DESCRIPTION

YFCR-54 (SWMU 49/50) is the washrack USTs, located northeast of the Cantonment Area. No releases are known.

Because these sites are active, no further action is planned under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

POL

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RC - 1993

PAST MILESTONES

IRP START DATE: 16 November 1988

IRP Phase	Completion Date
Installation Assessment Report	Sep 83
PA	Jun 91
SI at YFCR-01, 32, 34, 35, 41, 45, 46, 47, 48, 49, 50, 51, 52, 53	Aug 95
RFA	Jul 95
RI/FS at YFCR-51 completed	2002

PROJECTED MILESTONES

Completion of All Remedial Actions	2007
Completion of LTM/ LTO	2034

NO FURTHER ACTION SITES

The following sites currently require no further action under the ER,A program:

YFCR-02 Sewage Treatment Plant Lab
YFCR-03 Photo Lab
YFCR-04 Range 1
YFCR-06 Range 3
YFCR-07 Range 4
YCFR-08 Range 5
YCFR-09 Range 7
YCFR-10 Range 10
YCFR-11 Range 9
YCFR-12 Range 10
YCFR-13 Range 10Z
YCFR-14 Range 11 (OMA- undergoing Clean Closure)
YCFR-15 Range 12
YCFR-16 Range 13
YCFR-17 Range 14
YCFR-18 Range 15
YCFR-19 Range 16
YCFR-20 Range 17
YCFR-21 Range 19
YCFR-22 Range 20
YCFR-24 Range 22
YCFR-25 Range 22C
YCFR-26 Range 23
YCFR-27 Range 24
YCFR-28 Range 26
YCFR-29 Range 27
YCFR-30 Range 28
YCFR-31 Range 30
YFCR-33 Sanitary Waste Treatment Plant
YFCR-35 Solid Waste Landfill
YFCR-36 Dud Area #4
YFCR-37 Dud Area #1
YFCR-39 Burn Areas (at Artillery Firing Point)
YCFR-40 Range 2
YCFR-41 Former MATES Facility (Bldg 845)
YFCR-42 MATES Facility
YFCR-43 Tank Maintenance (Bldg 851)
YFCR-44 Vehicle Maintenance (Bldg 806)
YFCR-45 JP-4 Bladder Site (Near Bldg 450)
YFCR-46 Ammunition Storage Point
YFCR-48 Pesticide Storage (Bldg 975)
YFCR-51 Landfill Pits (1968-1969)
YFCR-52 Buried Munition Area (Bldg 217)
YFCR-54 Washracks USTs

Yakima Training Center IRP Schedule

(Based on current funding constraints)

		FY05	FY06	FY07	FY08	FY09	FY10+
YFCR-01	RI/FS						
	LTM						
YFCR-32	RI/FS						
	RD						
	RA						
YFCR-34	RI/FS						
	RA						
YFCR-47	RI/FS						
	RA						
	LTM						
YFCR-49	RI/FS						
	RA						
	LTM						
YFCR-50	RI/FS						
	RA						
	LTM						
YFCR-53	LTM						

Remediation Activities

COMPLETED REM/IRA/RA:	YFCR-35, Solid Waste Landfill - landfill cap
CURRENT REM/IRA/RA:	None
FUTURE REM/IRA/RA:	- RA at YFCR-32, 34, 47, 49, 50

Community Involvement

RESTORATION ADVISORY BOARD (RAB) STATUS

Yakima Traing Center does not have a RAB because of lack of interest by nearby communities. EPA, Region 10, WA Department of Ecology and DPW held discussions in 1998 with the local tribes.